

THE EGGS OF CORIMELAENA VIRILIS
(McATEE AND MALLOCH)

(Hemiptera: Cydnidae: Corimelaeninae)¹

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One of the first hazards to which an insect is exposed is that of successfully emerging from the egg. Various groups have evolved different methods for the successful completion of this task. This paper will treat one type of egg burster found in the Order Hemiptera.

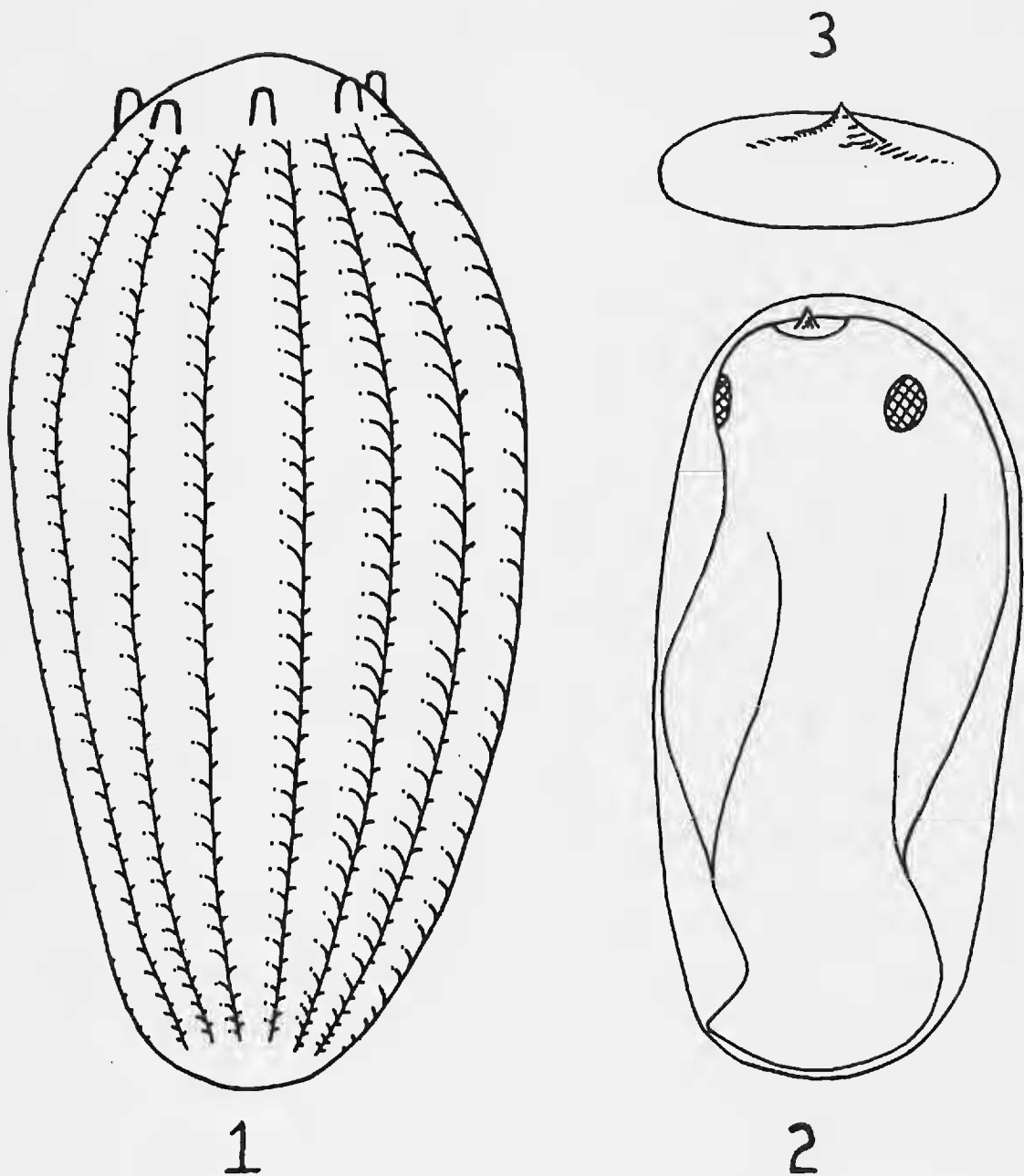
Aside from a very brief mention by Webster (1884), no complete description of the eggs of any Corimelaeninae has been noticed. Boselli (1932) described the egg of *Sehirus sexmaculatus* (Rbr.), a species which belongs to the other subfamily of Cydnidae. He illustrated the fully developed embryo and the egg burster.

The eggs of *Corimelaena virilis* were taken on a species of *Nicotiana* in eastern California. The eggs were laid singly on their side towards the top of the plant and on the underside of the leaves near the midrib. The eggs of the Cydininae, the other subfamily of Cydnidae, are laid in ball-like clusters in the ground and are brooded by the female. The other families of Pentatomoidea, as far as known, lay their eggs in clusters of 4-40 with the individual eggs laid upright so that the egg mass resembles a series of small kegs.

The egg of *Corimelaena virilis* is white, 1.08 mm. in length, roughly ovoid with one side slightly flattened. The egg tapers posteriorly and the chorion is fluted longitudinally; the anterior end bears a ring of 9 chorionic processes which are peg-like. There is no well defined opercular suture although the opercular area is defined by the processes (fig. 1).

The egg burster appears early in the embryonic development as a small stout spine slightly behind the vertex of the head (fig. 2). This spine is situated in a well defined sclerotized disk which fits cap-like over the posterior portion of the head (fig. 3). This disk is contained in the embryonic cuticle. There is another membrane that surrounds the embryonic membrane that is believed by some to be the serosal membrane. When hatching takes place, the egg splits longitudinally across the anterior end, initiated

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EXPLANATION OF FIGURES

Fig. 1. Egg of *Corimelaena virilis* (McAtee and Malloch), side view showing fluting and chorionic processes. Fig. 2. Partially developed embryo within outer membrane showing egg burster. Fig. 3. Enlargement of egg burster.

by the emerging nymph pressing against the burster which in turn splits the chorion. At this time only a single membrane is apparent. The exact fate of one of the membranes is unknown. As mentioned earlier, Boselli showed the egg burster of one of the Cydninae and it is exactly like that found in *Corimelaena*. All of the other Pentatomoidea known have a T-shaped burster. In the latter a well developed opercular cap is present and emergence takes place by the nymph pushing the burster against the cap which in turn

hinges back, allowing the nymph to escape. Thus it seems clear that the Cydnidae, at least with regard to the egg burster, is a well defined family within the super-family Pentatomoidea. Certain other morphological characters seem to bear this out.

In other groups of Hemiptera where egg bursters are known, various modifications have taken place. In the Coreioidea, the burster closely resembles that type found in the Cydnidae. It consists of a single, blunt spine borne by a sclerotized hood-like structure. The Cimicidae, according to Sikes and Wigglesworth (1931), have an egg burster consisting of a V-shaped series of spines on the embryonic cuticle in the vicinity of the vertex of the head.

Our knowledge of egg bursters is far from complete, but there are indications that these structures may be useful in providing additional systematic characters which will be useful in determining the correct relationships of many groups.

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RELEASES OF RECENTLY IMPORTED INSECT PARASITES AND PREDATORS IN CALIFORNIA, 1952-53

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There is given below a complete record of the first field releases in California of a series of insect parasites and predators, listed under their respective hosts, recently imported by the Department of Biological Control. The year of release is 1953 unless otherwise indicated. The publication of this record seems desirable in order to facilitate identification of any of the species should they be taken by collectors in the future.